



FORM PTO-1390 (Modified) (REV 5-93)		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		ATTORNEY'S DOCKET NUMBER	
TRANSMITTAL LETTER TO THE UNITED STATES DESIGNATED/ELECTED OFFICE (DO/EO/US) CONCERNING A FILING UNDER 35 U.S.C. 371				017264-0113	
				U.S. APPLICATION NO. (If known, see 37 C.F.R. 1.51) Unassigned <b>10/031086</b>	
INTERNATIONAL APPLICATION NO. PCT/NZ00/00126		INTERNATIONAL FILING DATE 07/14/2000		PRIORITY DATE CLAIMED 07/16/1999	
TITLE OF INVENTION APPARATUS FOR EMPTYING RECEPTACLE					
APPLICANT(S) FOR DO/EO/US Geoffrey James Wolfe TAYLOR and Wayne James Mathew TAYLOR					
Applicant herewith submits to the United States Designated/Elected Office (DO/EO/US) the following items and other information:					
1.	<input checked="" type="checkbox"/>	This is a FIRST submission of items concerning a filing under 35 U.S.C. 371.			
2.	<input type="checkbox"/>	This is a SECOND or SUBSEQUENT submission of items concerning a filing under 35 U.S.C. 371.			
3.	<input type="checkbox"/>	This express request to begin national examination procedures (35 U.S.C. 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 U.S.C. 371(b) and PCT Articles 22 and 39(1).			
4.	<input type="checkbox"/>	A proper Demand for International Preliminary Examination was made by the 19 <sup>th</sup> month from the earliest claimed priority date.			
5.	<input checked="" type="checkbox"/>	A copy of the International Application as filed (35 U.S.C. 371(c)(2)) <input type="checkbox"/> is transmitted herewith (required only if not transmitted by the International Bureau). <input checked="" type="checkbox"/> has been transmitted by the International Bureau. <input type="checkbox"/> is not required, as the application was filed in the United States Receiving Office (RO/US)			
6.	<input type="checkbox"/>	A translation of the International Application into English (35 U.S.C. 371(c)(2)).			
7.	<input checked="" type="checkbox"/>	Amendments to the claims of the International Application under PCT Article 19 (35 U.S.C. 371(c)(3)) <input type="checkbox"/> are transmitted herewith (required only if not transmitted by the International Bureau). <input checked="" type="checkbox"/> have been transmitted by the International Bureau. <input type="checkbox"/> have not been made; however, the time limit for making such amendments has NOT expired. <input type="checkbox"/> have not been made and will not be made.			
8.	<input type="checkbox"/>	A translation of the amendments to the claims under PCT Article 19 (35 U.S.C. 371(c)(3)).			
9.	<input checked="" type="checkbox"/>	An oath or declaration of the inventor(s) (35 U.S.C. 371(c)(4)).			
10.	<input checked="" type="checkbox"/>	A copy of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 U.S.C. 371(c)(5)).			
11.	<input checked="" type="checkbox"/>	Applicant claims small entity status under 37 CFR 1.27.			
Items 12. to 17. below concern other document(s) or information included:					
12.	<input type="checkbox"/>	An Information Disclosure Statement under 37 CFR 1.97 and 1.98.			
13.	<input checked="" type="checkbox"/>	An assignment document for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.			
14.	<input checked="" type="checkbox"/>	A FIRST preliminary amendment. <input type="checkbox"/> A SECOND or SUBSEQUENT preliminary amendment.			
15.	<input type="checkbox"/>	A substitute specification.			
16.	<input type="checkbox"/>	A change of power of attorney and/or address letter.			
17.	<input type="checkbox"/>	Other items or information:			

U.S. APPLICATION NO. (if known, see 37 C.F.R. 1.50) Unassigned <b>10/031086</b>		INTERNATIONAL APPLICATION NO. PCT/NZ00/00126		ATTORNEY'S DOCKET NUMBER 017264-0113	
18. <input checked="" type="checkbox"/> The following fees are submitted:				<b>CALCULATIONS</b>	
Basic National Fee (37 CFR 1.492(a)(1)-(5): Search Report has been prepared by the EPO or JPO.....\$890.00					
International preliminary examination fee paid to USPTO (37 CFR 1.482).....\$710.00					
No international preliminary examination fee paid to USPTO (37 CFR 1.482) but international search fee paid to USPTO (37 CFR 1.445(a)(2)) .....\$740.00					
Neither international preliminary examination fee (37 CFR 1.482) nor International search fee (37 CFR 1.445(a)(2)) paid to USPTO ..... \$1,040.00					
International preliminary examination fee paid to USPTO (37 CFR 1.482) and all claims satisfied provisions of PCT Article 33(2)-(4) .....\$100.00					
ENTER APPROPRIATE BASIC FEE AMOUNT =				\$1,040.00	
Surcharge of \$130.00 for furnishing the oath or declaration later than 20 Months from the earliest claimed priority date (37 CFR 1.492(e))					
Claims	Number Filed		Included in Basic Fee	Extra Claims	Rate
Total Claims	22	-	20	= 2	× \$18.00
Independent Claims	4	-	3	= 1	× \$84.00
Multiple dependent claim(s) (if applicable)					\$280.00
TOTAL OF ABOVE CALCULATIONS =				\$1,160.00	
Reduction by ½ for filing by small entity, if applicable.				\$580.00	
SUBTOTAL =				\$580.00	
Processing fee of \$130.00 for furnishing English translation later the 20 months from the earliest claimed priority date (37 CFR 1.492(f)).				+	
TOTAL NATIONAL FEE =				\$580.00	
Fee for recording the enclosed assignment (37 CFR 1.21(h)). The assignment must be accompanied by an appropriate cover sheet (37 CFR 3.28, 3.31). \$40.00 per property +				\$40.00	
TOTAL FEES ENCLOSED =				\$620.00	
				Amount to be: refunded \$	
				charged \$	
<p>a. <input checked="" type="checkbox"/> A check in the amount of \$620.00 to cover the above fees is enclosed.</p> <p>b. <input type="checkbox"/> Please charge my Deposit Account No. <u>19-0741</u> in the amount of \$0.00 to the above fees. A duplicate copy of this sheet is enclosed.</p> <p>c. <input checked="" type="checkbox"/> The Commissioner is hereby authorized to charge any additional fees which may be required, or credit any overpayment to Deposit Account No. <u>19-0741</u>. A duplicate copy of this sheet is enclosed.</p>					
NOTE: Where an appropriate time limit under 37 CFR 1.494 or 1.495 has not been met, a petition to revive (37 CFR 1.137(a) or (b)) must be filed and granted to restore the application to pending status.					
SEND ALL CORRESPONDENCE TO:					
<b>Foley &amp; Lardner</b> Customer Number: 22428  <b>22428</b> PATENT TRADEMARK OFFICE			SIGNATURE  NAME <u>WILLIAM T. ELLIS</u> REGISTRATION NUMBER <u>26,874</u>		

RECEIVED JAN 16 2002

Atty. Dkt. No. 017264-0113

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant: Geoffrey James Wolfe  
TAYLOR et al.

Title: APPARATUS FOR EMPTYING  
RECEPTACLE

Appl. No.: Unassigned

Filing Date: 01/016/2002

Examiner: Unassigned

Art Unit: Unassigned

**PRELIMINARY AMENDMENT**

Commissioner for Patents  
Box PATENT APPLICATION  
Washington, D.C. 20231

Sir:

Prior to examination of the above-identified application, Applicants respectfully request that the following amendments be entered into the application:

**In the Claims:**

In accordance with 37 CFR §1.121, please substitute for original claims 3, 4, 6, 10-12, 15, 16, 18, 21 and 22 for the following rewritten versions of the same claims, as amended. The changes are shown explicitly in the attached "Version With Markings to Show Changes Made."

3. (Amended) An apparatus as claimed in claim 1, wherein the actuator is an hydraulic actuator.

4. (Amended) An apparatus as claimed in claim 1, wherein the actuator comprises a pair of ram provided on either side of the receptacle, each connected at one end to the support structure and at the other end to the receptacle at a point away from the pivotal connection.

6. (Amended) An apparatus as claimed in claim 1, wherein the support structure supports a plurality of receptacles which each tip their contents into a common region.

10. (Amended) A method as claimed in claim 8, wherein a plurality of bulk receptacles are employed and grape material is sequentially supplied from each bulk receptacle to supply grape material to the receiving receptacle.

11. (Amended) A method as claimed in claim 8, wherein the receiving receptacle is a press.

12. (Amended) A method as claimed in claim 8, wherein the receiving receptacle is a conveyor.

15. (Amended) The combination as claimed in claim 13, wherein said support frame is dimensioned and arranged to provide one or more supporting legs beneath the point of balance of the receptacle in said second position.

16. (Amended) The combination as claimed in claim 13, further comprising a gantry rigidly secured to said support frame, said gantry extending horizontally just below the level of the top of the receptacle in said second position.

18. (Amended) The combination as claimed in claim 16 wherein the end of the gantry remote from said support frame is securable to a wall, the ground or equivalent support.

21. (Amended) The combination as claimed in claim 19, wherein said gantry also provides one or more cat walks.

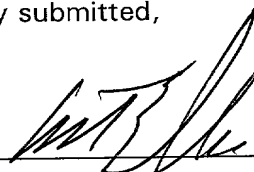
22. (Amended) The combination as claimed in claim 13, wherein the or said moving means comprises a pair of spaced hydraulic rams.

REMARKS

Applicants respectfully request that the foregoing amendments to Claims 3, 4, 6, 10-12, 15, 16, 18, 21 and 22 be entered in order to avoid this application incurring a surcharge for the presence of one or more multiple dependent claims.

Respectfully submitted,

By



William T. Ellis  
Attorney for Applicant  
Registration No. 26,874

Date January 16, 2002

FOLEY & LARDNER  
Customer Number: 22428



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**Version With Markings to Show Changes Made**

3. (Amended) An apparatus as claimed in claim 1 [or 2], wherein the actuator is an hydraulic actuator.
4. (Amended) An apparatus as claimed in [any one of the preceding claims] claim 1 wherein the actuator comprises a pair of ram provided on either side of the receptacle, each connected at one end to the support structure and at the other end to the receptacle at a point away from the pivotal connection.
6. (Amended) An apparatus as claimed in [any one of the preceding claims] claim 1 wherein the support structure supports a plurality of receptacles which each tip their contents into a common region.
10. (Amended) A method as claimed in [claim 9 or claim 10] claim 8, wherein a plurality of bulk receptacles are employed and grape material is sequentially supplied from each bulk receptacle to supply grape material to the receiving receptacle.
11. (Amended) A method as claimed in [any one of claims 8 to 10] claim 8, wherein the receiving receptacle is a press.
12. (Amended) A method as claimed in [any one of claims 8 to 10] claim 8, wherein the receiving receptacle is a conveyor.
15. (Amended) The combination as claimed in claim 13 [or claim 14], wherein said support frame is dimensioned and arranged to provide one or more supporting legs beneath the point of balance of the receptacle in said second position.
16. (Amended) The combination as claimed in [any one of claims 13 to 15] claim 13, further comprising a gantry rigidly secured to said support frame, said gantry extending horizontally just below the level of the top of the receptacle in said second position.

18. (Amended) The combination as claimed in claim 16 [or claim 17] wherein the end of the gantry remote from said support frame is securable to a wall, the ground or equivalent support.

21. (Amended) The combination as claimed in claim 19 [or 20], wherein said gantry also provides one or more cat walks.

22. (Amended) The combination as claimed in [any one of claims 13 to 21] claim 13, wherein the or said moving means comprises a pair of spaced hydraulic rams.

**Title:** APPARATUS FOR EMPTYING RECEPTACLE

Technical Field

5 The present invention relates to an apparatus for emptying the contents of a receptacle as a controlled pouring operation. The apparatus of the present invention is particularly suitable for use in the wine and horticultural industries, and will be described with a special reference to this application. However, it will be appreciated that the apparatus of the present invention also is suitable for use in a wide variety of  
10 other industries.

Background Art

15 At present, the transfer of selected grape material (e.g. fruit, pulp, juice or pre-drained skins) from a holding tank receptacle or other fermentation vessel to a membrane press is achieved by manual evacuation or mechanical conveyance.

Manual evacuation is carried out by a person entering the vessel and digging the wet solid material toward and out of a low outwardly opening door into an open throat pump, or onto a conveyer or open auger where it is conveyed to a membrane press.  
20 The main disadvantage of manual evacuation is the requirement for human labour to perform a tedious and potentially unsafe and unhygienic job. The task is time consuming and thus the overall press cycle time is increased. Further, digging, pumping and auger conveyance of wet material often decreases the quality of the final wine product given that the skins can be sheared allowing unwanted flavours to be  
25 secreted from the grapes.

An alternate method of evacuation, known as the chuting method, is to mount a conical bottomed tank above a membrane press. The tank is provided with a door or large valve at or adjacent the base which when opened allows the contents to flow directly into the press. It is difficult to control the flow rate and emptying of the  
30 contents, and so the chuting method is prone to over spills. The contents also tends to agglomerate such that agitation may be required. In view of the fact that the tank is mounted above the press, an extensive high catwalk structure is required for access and servicing. The conical bottom of the tank defining the internal cavity floor is also



difficult to clean.

PCT/AU 95/00009 discloses a bin unloader for picking up and inverting wheeled rubbish bins. In this device, a bin to be unloaded is wheeled into an enclosure, the upper part of the bin is gripped by gripping claws, and the bin is raised and inverted. Each bin is supported upon the floor until gripped by the gripping claws. The rate which the bin is lifted and inverted is not controlled in any way: -- the object is to dump the rubbish out of the bin quickly, rather than a controlled pouring of the rubbish.

10 Disclosure Of Invention

It is an object of the present invention to provide an apparatus for emptying a receptacle which minimizes bruising and/or spillage loss during emptying of the receptacle contents and provides rapid but controllable emptying in a manner which places relatively low stress on the material being emptied. It is a further object of the present invention to provide an apparatus which is self supporting and of a relatively compact design.

The present invention provides apparatus for emptying a receptacle, comprising:

a stationary support frame adapted to be supported upon the ground or equivalent supporting surface;

securing means for securing a receptacle to said stationary support frame, such that said receptacle is suspended in a substantially upright position clear of the ground; said securing means being pivoted to said stationary support frame;

moving means mounted between said securing means and said stationary support frame; said moving means being operable to tilt in a controlled manner a receptacle secured by said securing means between a first, substantially upright, position and a second, inclined, position.

The present invention further provides the combination of apparatus for emptying a receptacle, and a receptacle, comprising:

a stationary support frame adapted to be supported upon the ground or equivalent supporting surface, said support frame providing a framework which at least partially surrounds the receptacle;

- 5   securing means for securing said receptacle to said support frame, such that said receptacle is suspended in a substantially upright position clear of the ground and of said framework; said securing means including a collar which at least partially surrounds said receptacle and is secured thereto; said collar being pivoted to said support frame;

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moving means in the form of a pair of spaced hydraulic rams mounted between said collar and said support frame; said moving means being operable to move said receptacle relative to said support frame such that said receptacle may be tilted in a controlled manner between a first, substantially upright, position within said support frame and a second, raised and inclined, position outside of said support frame.

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The present invention also provides the combination of apparatus for emptying two receptacles, comprising:

- 20   a pair of opposed stationary support frames each adapted to be supported upon the ground or equivalent supporting surface, one support frame providing a framework which at least partially surrounds one of the receptacles, and the other support frame providing a framework which at least partially surrounds the other of the receptacles;

- 25   securing means for securing each receptacle to the corresponding support frame, such that said receptacle is suspended in a substantially upright position clear of the ground and of said corresponding framework; each said securing means including a collar which at least partially surrounds said corresponding receptacle and is secured thereto; each said collar being pivoted to said corresponding support frame;

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moving means mounted between each said collar and said corresponding support frame; each said moving means being operable to move said corresponding receptacle relative to said corresponding support frame such that said receptacle may be tilted in a controlled manner between a first, substantially upright, position within said corresponding support frame and a second, raised and inclined, position outside

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of said corresponding support frame; and

a gantry rigidly secured between said opposed support frames, said gantry extending horizontally just below the level of the top of said receptacles in said second position.

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The or each moving means may comprise a pair of spaced hydraulic or pneumatic rams.

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The or each receptacle may be any of a wide variety of shapes, depending upon the application of the apparatus and receptacle. The or each receptacle may have an open top, or a partially closed top, or a top formed as a pouring spout; the top may be completely closed by a removable lid or cap.

#### Brief Description Of The Drawings

15

By way of example only, preferred embodiments of the present invention are described in detail with reference to the accompanying drawings, in which:-

20

Fig. 1 is a side view of the apparatus in accordance with a first embodiment of the present invention;

Fig. 2 is an isometric view of two sets of apparatus in accordance with a variant of the first embodiment;

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Fig. 3 is a side view of the apparatus in accordance with a second embodiment of the present invention; and

Fig. 4 is a side view of the apparatus in accordance with a third embodiment of the present invention.

30

#### Best Mode For Carrying Out The Invention

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Referring to Fig. 1, the apparatus 2 shown is a double unit, with two opposed, mirror-image stationary support frames 3a,3b joined by a gantry 4. The gantry 4 provides two cat-walks 5,6, and supports a conical pouring guide 7.

Each support frame 3a,3b comprises two spaced, parallel sides 8,9, (only one of which is visible on each frame), a front 10,11, and a base 12,13. The sides, front and base of each frame 3a,3b, are constructed as open frameworks made from spaced girders and cross-braces; for clarity, these are shown only diagrammatically in the drawings, and it will be appreciated that the support frames may be made heavier or lighter, as required for the weight of the receptacle to be supported.

The lower ends of the girders forming the uprights of the sides 8,9, and fronts 10,11, of the support frames extend below the corresponding bases 12,13, to form feet 16,17, upon which the support frames rest upon the ground or other supporting surface. The feet 16,17, may be adjustable to allow for uneven ground.

The upper edge of each side 8,9, is formed by an inclined brace 14,15, the lower end of which provides a pivotal anchorage for one end of an hydraulic ram 18,19.

The other end of each ram 18,19, is pivotally secured to a collar 20,21, which partly encircles a circular cross-section receptacle 22,23, associated with the support frame 3a,3b, respectively.

Each collar 20,21, is rigidly secured to the corresponding receptacle 22,23. At each side of the receptacle, the collar projects forwards, i.e. beyond the front of the support frame, and is pivoted to the corresponding side of the gantry 4 at pivots 20a,21a.

Each receptacle 22,23, is substantially cylindrical, but with a tapered upper portion 24,25, terminating in a top opening 26,27, through which the contents of the receptacle may be poured when the receptacle is inclined, as hereinafter described. This top opening 26,27, may be closed by a removable lid (not shown).

Each receptacle and its associated support frame are dimensioned so that the receptacle can be pivoted in and out of the stationary frame, pivoting between the lowered position L of Fig. 1 and the raised position R of Fig. 1. In the lowered position, each receptacle 22,23, hangs above the corresponding base 12,13, supported from the collar 20,21. This keeps the bottom of the receptacle clean and also prevents it from catching or binding on the base 12,13.

Each collar 20,21, encircles the corresponding receptacle 22,23, just below the tapered upper portion 24,25. Each collar may be permanently secured to the receptacle (e.g. by welding) or may be releasably secured to the receptacle. The pair of hydraulic rams 18,19, are secured one to each side of the collar, near the front of the corresponding support frame, such that when the pair of rams 18 is extended as shown on the left-hand side of Fig.1, the receptacle is raised and pivoted in the direction of arrow A, until it reaches the raised, partially-inverted position R. In this position, the top opening 26 is above the pouring guide 7, so that the contents of the receptacle can pour out of the opening 26 to be collected by the guide 7.

Since the receptacle is raised and pivoted by a pair of hydraulic rams, the movement of the receptacle is completely controllable – the receptacle can be raised and/or pivoted slowly or rapidly, as required. Further, pouring can be halted at any point:- it is not necessary to empty the receptacle in a single pouring.

All pouring operations can be fully supervised by a controller standing on the cat-walk 5/6. The controller can control the rams directly, by a remote control, or can communicate with a second person controlling the rams.

The pouring guide 7 is located beneath a corresponding aperture (not visible) in the gantry 4. The guide 7 can direct the contents of the receptacle into any required container located beneath the guide. Fig. 1 diagrammatically represents a membrane press 27 beneath the guide 7, but it will be appreciated that the membrane press could be replaced by any desired type of container/further processing apparatus.

The above described apparatus is used as follows – each of the receptacles 22,23 is filled with any desired grape material, (e.g. fruit, pulp, juice, pre-drained skins or fortifying beverage) with the containers 22,23 in the lowered position L. The receptacles are filled through the top openings 26,27. The receptacles may be fitted with internal screens or filters (not shown) so that if the receptacles are filled with material which is a mixture of liquid and solid (e.g. pulp) the liquid drains through to the bottom of the receptacle and can be removed from the receptacle by pumping out through a lower aperture (not shown) in the receptacle, if desired.

If the receptacle is fitted with a removable collar 20,21, then the receptacle may be filled with the material either before or after positioning in the support frame.

When it is desired to remove some or all of the material from one of the receptacles 5 22, a container or further processing apparatus (e.g. a membrane press 27) is positioned below the pouring guide 7, and the upper hatch of the membrane press is opened to receive material poured through the guide 7. The lid of the receptacle 22 is removed, and the operator controls the supply of hydraulic fluid to the pair of rams 18 to gradually extend the rams and slowly raise and tilt the receptacle 22, so that 10 material pours from the open top 26 of the container 22 into the guide 7 and hence into the membrane press 27. The pouring operation may be supervised and/or controlled by a person standing on the catwalk 6. When the desired amount of material has been poured out of the receptacle, the receptacle 22 is lowered back to position L by contracting the pair of rams 18. It would be appreciated that the raising and tipping of 15 the receptacle 22 may be as slow and as gentle as necessary. If the contents of the receptacle 22 tend to stick inside the receptacle, the receptacle can be rocked backwards and forwards by alternation of the hydraulic rams 18 in reverse and forward drive to remove any material that may adhere to the base and sides of the receptacle walls.

20 Throughout the lifting and lowering of the receptacle 22, the apparatus is stabilised by the receptacle 23 in the lowered position, and its associated support frame. For additional stability, the feet 16,17 may be secured to the ground/floor.

25 The receptacle 23 is emptied in the same manner as described above in respect of the receptacle 22.

Fig. 2 shows a pair of double units similar, but not identical, to those of Fig. 1. The same components are given the same reference numerals. In the Fig. 2 embodiment, 30 the girders 8a,9a forming the outer edges of the sides 8,9, are angled inwards, so that the diagonal braces 14,15 are somewhat shorter than in the Fig. 1 embodiment. Further, the lower ends of the pairs of hydraulic rams 18,19 are mounted on brackets 14a,15a, secured to the braces 14,15, rather than directly to the braces.

35 The right-hand side of Fig. 2 shows the receptacle 23 as a four-position 'development'

between the fully-lowered position **L** and the fully-raised position **R**.

In the second embodiment shown in Fig. 3, the apparatus is a single unit only; all the parts of the apparatus which are the same as described above with reference to Figs. 1 and 2 are identified by the same numerals. In the Fig. 3 embodiment, there is only a single receptacle 22 with its associated support frame 3a. In order to stabilise the apparatus when the receptacle 22 is moved to the raised position **R** as shown in Fig. 3, the end of the gantry 4 furthest from the support frame 3a is secured to a wall 30. Alternatively, one or more supporting legs may be substituted for the wall 30.

The third embodiment shown in Fig. 4 also is a single unit and, as in Fig. 3, the same reference numerals as in Fig. 1 are used for identical components. In the Fig. 4 embodiment, the receptacle 22 in the raised position **R** is stabilised by increasing the width of the parallel sides 8 of the support frame 3a, so that the front legs 31 of the support frame lie beneath the point of balance of the receptacle 22 in the raised position **R**.

The receptacles and the associated support frames may be made of any suitable material. For use with organic materials such as grape products, stainless steel receptacles are preferred.

Typical dimensions and capacities are:

receptacle capacity	-	10 tonnes
diameter of receptacle base	-	2710 cm.
length of each side 8	-	1950 cm.
height of support frame	-	3000 cm.
height of top of receptacle above ground in position <b>L</b>	-	3640 cm.
height of base of receptacle above ground in position <b>R</b>	-	6950.54 cm
overall width of support frame and receptacles	-	8140 cm

It will be appreciated that pneumatic rams could be substituted for hydraulic rams 18,19, for appropriate applications where the weight of the receptacle plus load is relatively light.

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JC13 Rec'd PCT/PTO 16 JAN 2002

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# CLAIMS

1. An apparatus for handling grape material including:

a support structure;

a receptacle for containing a grape material having an opening at one end and being rotatable about a pivotal connection with the support structure; and

an actuator for rotating the receptacle in a controlled manner from an upright position in which a grape material may be contained in the receptacle to a tipped position in which the contents of the receptacle may be emptied via the opening.

2. An apparatus as claimed in claim 1 wherein the receptacle includes a collar that is pivotally connected to the support structure and wherein the actuator rotates the collar with respect to the support structure.

3. An apparatus as claimed in claim 1 or claim 2 wherein the actuator is an hydraulic actuator.

4. An apparatus as claimed in any one of the preceding claims wherein the actuator comprises a pair of rams provided on either side of the receptacle, each connected at one end to the support structure and at the other end to the receptacle at a point away from the pivotal connection.

5. An apparatus as claimed in claim 4 wherein the hydraulic rams are connected to the collar.

6. An apparatus as claimed in any one of the preceding claims wherein the support structure supports a plurality of receptacles which each tip their contents into a common region.



7. An apparatus as claimed in claim 6 wherein a pair of receptacles are provided in an opposing configuration and empty their contents into a region between the two receptacles.

5 8. A method of supplying grape material from a bulk receptacle to a receiving receptacle including the steps of:

- i) supplying grape material to the bulk receptacle; and
  - ii) actuating an actuator which tilts the bulk receptacle relative to the support frame in a controlled manner to deliver the grape material directly or indirectly to a receiving receptacle.
- 10

9. A method as claimed in claim 8 wherein the bulk receptacle is tilted in a number of steps in order to supply grape material to the receiving receptacle at a desired rate.

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10. A method as claimed in claim 9 or claim 10 wherein a plurality of bulk receptacles are employed and grape material is sequentially supplied from each bulk receptacle to supply grape material to the receiving receptacle.

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11. A method as claimed in any one of claims 8 to 10 wherein the receiving receptacle is a press.

25 12. A method as claimed in any one of claims 8 to 10 wherein the receiving receptacle is a conveyor.

13. The combination of apparatus for emptying a receptacle, and a receptacle, comprising:

30 a stationary support frame adapted to be supported upon the ground or equivalent supporting surface, said support frame providing a framework which at least partially surrounds the receptacle;

securing means for securing said receptacle to said support frame, such that said receptacle is suspended in a substantially upright position clear of the ground and of said framework; said securing means including a collar which at least partially surrounds said receptacle and is secured thereto; said collar being pivoted to  
5 said support frame;

moving means mounted between said collar and said support frame; said moving means being operable to move said receptacle relative to said support frame such that said receptacle may be  
10 tilted in a controlled manner between a first, substantially upright, position within said support frame and a second, raised and inclined, position outside of said support frame.

14. The combination as claimed in claim 13 comprising a cat  
15 walk rigidly secured to said support frame at just below the level of the top of the receptacle in said second position.

15. The combination as claimed in claim 13 or claim 14 wherein said support frame is dimensioned and arranged to provide one or  
20 more supporting legs beneath the point of balance of the receptacle in said second position.

16. The combination as claimed in any one of claims 13 to 15, further comprising a gantry rigidly secured to said support frame,  
25 said gantry extending horizontally just below the level of the top of the receptacle in said second position.

17. The combination as claimed in claim 16 wherein said gantry supports a pouring guide which is vertically below an outlet in or  
30 adjacent the top of the receptacle, when said receptacle is in said second position.

18. The combination as claimed in claim 16 or claim 17 wherein

the end of the gantry remote from said support frame is securable to a wall, the ground or equivalent support.

19. The combination of apparatus for emptying two receptacles, and two receptacles, comprising;

a pair of opposed stationary support frames each adapted to be supported upon the ground of equivalent supporting surface, one support frame providing a framework which at least partially surrounds one of the receptacles, and the other support frame providing a framework which at least partially surrounds the other of the receptacles;

securing means for securing each receptacle to the corresponding support frame, such that said receptacle is suspended in a substantially upright position clear of the ground and of said corresponding framework; each said securing means including a collar which at least partially surrounds said corresponding receptacle and is secured thereto; each said collar being pivoted to said corresponding support frame;

moving means mounted between each said collar and said corresponding support frame; each said moving means being operable to move said corresponding receptacle relative to said corresponding support frame such that said receptacle may be tilted in a controlled manner between a first, substantially upright, position within said corresponding support frame and a second, raised and inclined, position outside of said corresponding support frame; and

a gantry rigidly secured between said opposed support frames, said gantry extending horizontally just below the level of the top of said receptacles in said second position.

20. The combination as claimed in claim 19 wherein said gantry supports a pouring guide, which is positioned so as to be vertically below an outlet in or adjacent the top of either of the receptacles,

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when said receptacle is in said second position.

21. The combination as claimed in claim 19 or 20, wherein said gantry also provides one or more cat walks.

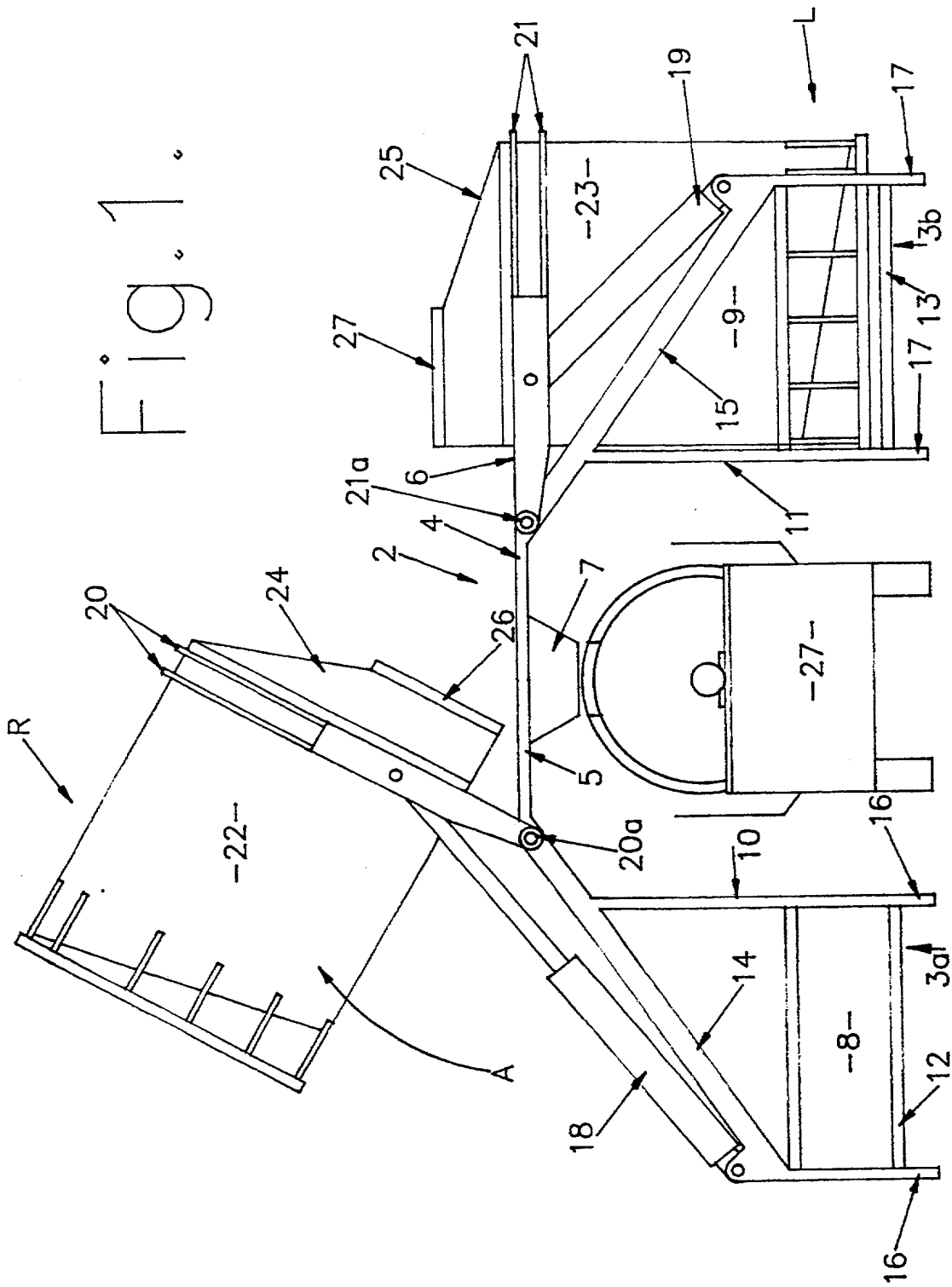
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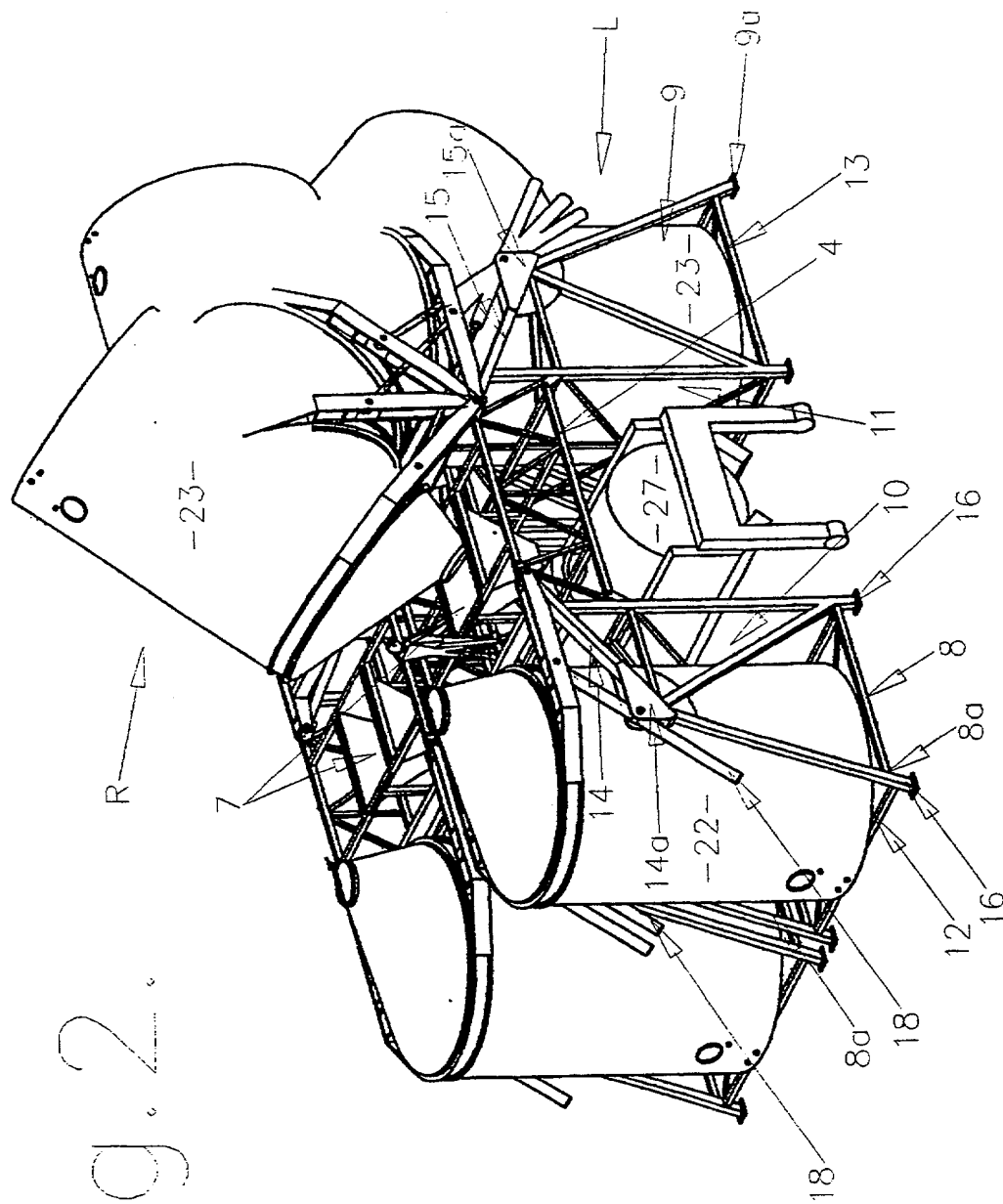
22. The combination as claimed in any one of claims 13 to 21 wherein the or each said moving means comprises a pair of spaced hydraulic rams.

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Fig. 1.





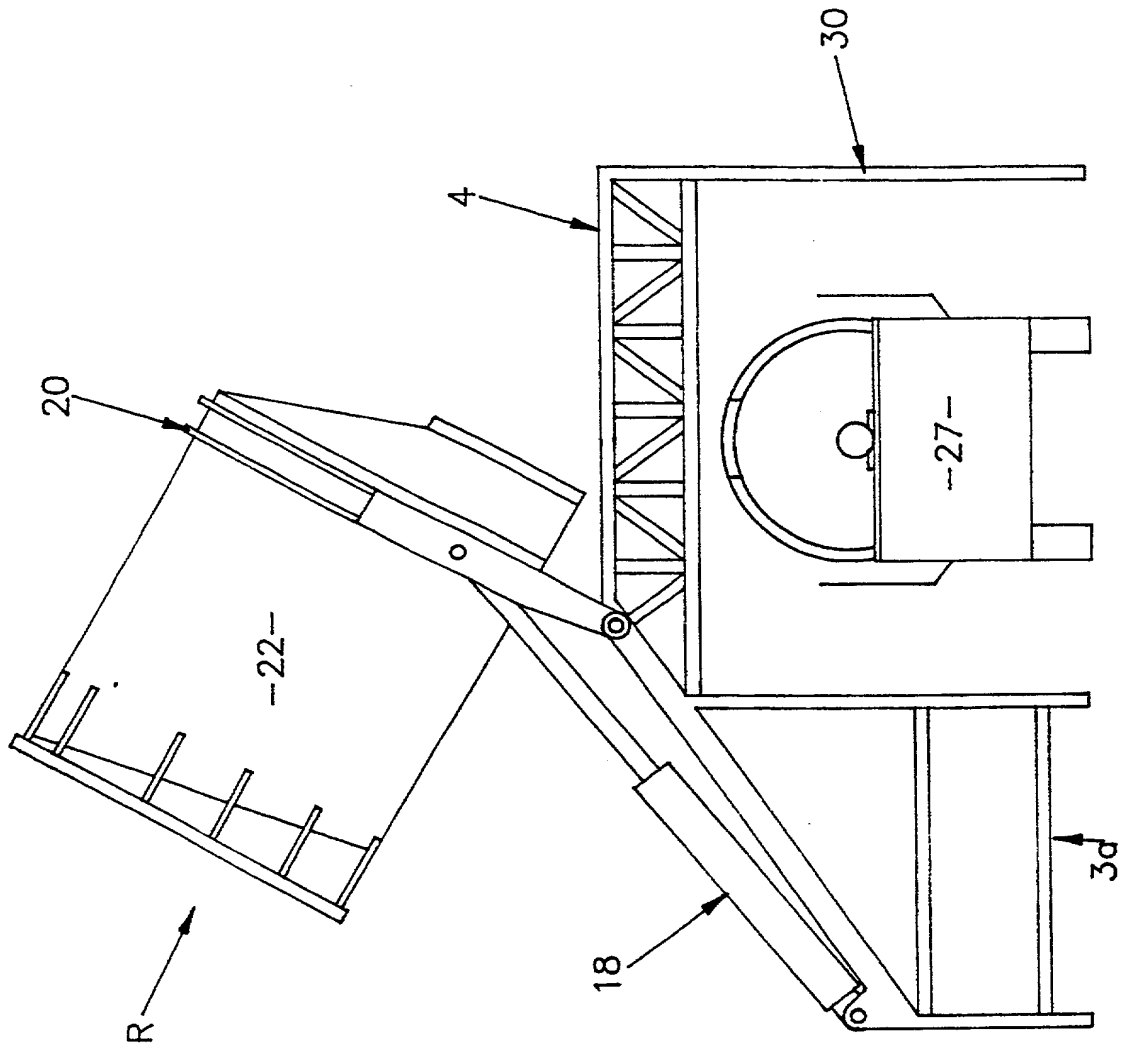
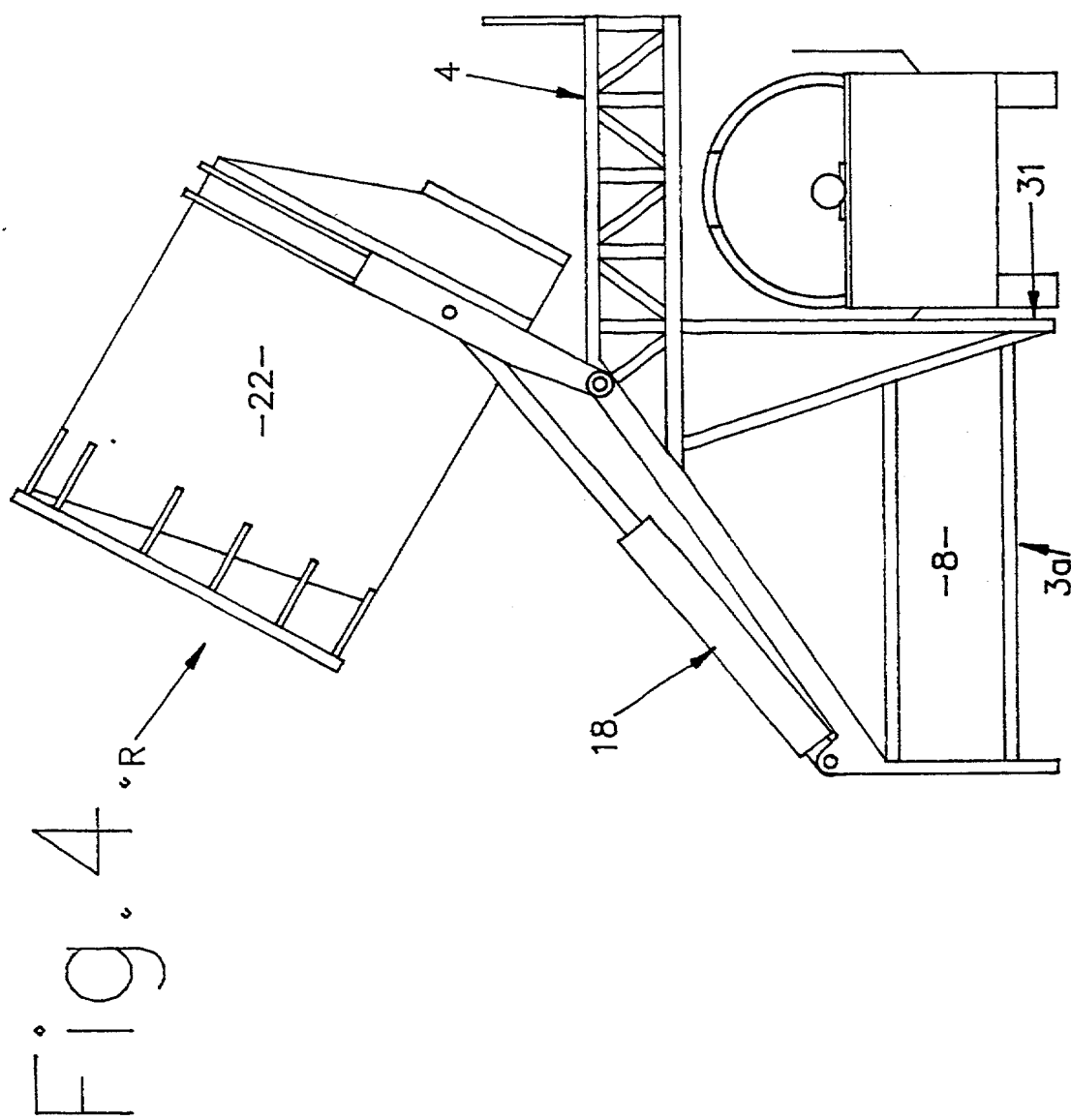


Fig. 3





DECLARATION AND POWER OF ATTORNEY

As a below named inventor, I HEREBY DECLARE:

THAT my residence, post office address, and citizenship are as stated below next to my name;

THAT I believe I am the original, first, and sole inventor (if only one inventor is named below) or an original, first, and joint inventor (if plural inventors are named below or in an attached Declaration) of the subject matter which is claimed and for which a patent is sought on the invention entitled

APPARATUS FOR EMPTYING RECEPTACLE

the specification of which (check one)

\_\_\_\_\_ is attached hereto.

\_\_\_\_\_ was filed on \_\_\_\_\_ as United States Application Number  
or PCT International Application Number PCT/NZ00/00126  
and was amended on 03/07/01 (if applicable).

THAT I do not know and do not believe that the same invention was ever known or used by others in the United States of America, or was patented or described in any printed publication in any country, before I (we) invented it;

THAT I do not know and do not believe that the same invention was patented or described in any printed publication in any country, or in public use or on sale in the United States of America, for more than one year prior to the filing date of this United States application;

THAT I do not know and do not believe that the same invention was first patented or made the subject of an inventor's certificate that issued in any country foreign to the United States of America before the filing date of this United States application if the foreign application was filed by me (us), or by my (our) legal representatives or assigns, more than twelve months (six months for design patents) prior to the filing date of this United States application;

THAT I have reviewed and understand the contents of the above-identified specification, including the claim(s), as amended by any amendment specifically referred to above;

THAT I believe that the above-identified specification contains a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention, and sets forth the best mode contemplated by me of carrying out the invention; and

THAT I acknowledge the duty to disclose to the U.S. Patent and Trademark Office all information known to me to be material to patentability as defined in Title 37, Code of Federal Regulations, §1.56.

I HEREBY CLAIM foreign priority benefits under Title 35, United States Code § 119(a)-(d) or § 365(b) of any foreign application(s) for patent or inventor's certificate, or § 365(a) of any PCT international application which designated at least one country other than the United States of America, listed below and have also identified below any foreign application for patent or inventor's certificate or of any PCT international application having a filing date before that of the application on which priority is claimed.

Prior Foreign Application Number	Country	Foreign Filing Date	Priority Claimed?	Certified Copy Attached?
336794	New Zealand	16 July 1999	YES	YES

I HEREBY CLAIM the benefit under Title 35, United States Code § 119(e) of any United States provisional application(s) listed below.

U.S. Provisional Application Number	Filing Date

I HEREBY CLAIM the benefit under Title 35, United States Code, § 120 of any United States application(s), or § 365(c) of any PCT international application designating the United States of America, listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States or PCT International application in the manner provided by the first paragraph of Title 35, United States Code, § 112, I acknowledge the duty to disclose information which is material to patentability as defined in Title 37, Code of Federal Regulations, § 1.56 which became available between the filing date of the prior application and the national or PCT international filing date of this application.

U.S. Parent Application Number	PCT Parent Application Number	Parent Filing Date	Parent Patent Number
	PCT/NZ00/00126	14 July 2001	

I HEREBY APPOINT the following registered attorneys and agents of the law firm of FOLEY & LARDNER to have full power to prosecute this application and any continuations, divisions, reissues, and reexaminations thereof, to receive the patent, and to transact all business in the United States Patent and Trademark Office connected therewith:

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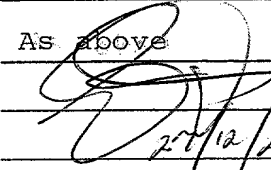
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I UNDERSTAND AND AGREE THAT the foregoing attorneys and agents appointed by me to prosecute this application do not personally represent me or my legal interests, but instead represent the interests of the legal owner(s) of the invention described in this application.

I FURTHER DECLARE THAT all statements made herein of my own knowledge are true, and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

1-00

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